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EXAMINER	
DIVECHA, KAMAL B	

ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/055,100	READING ET AL.	
	Examiner	Art Unit	
	KAMAL B. DIVECHA	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

Claims 1-40 have been cancelled and new claims 41-80 have been added.

Claims 41-80 are pending in this application.

Applicant's arguments filed August 24, 2006 have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

a. Applicants submit that the new claims 41-80 are patentably distinct from the cited prior art for the following reasons: the present invention is directed to methods and system for load balancing of workflow that requires performance of a plurality of activities. As described in the specification, when these activities are to be performed by a plurality of activity servers, and when these activity servers are also used to perform other workflows, bottlenecks in processing can arise due to the transfer of control of the individual activities between the activity servers and the queue that stores the workflows for processing. The present invention overcomes these difficulties by grouping the activities of a subject workflow into one or more workflow packets, where each such packet may include one or more of the activities. If a workflow packet is retrieved from the queue for performance of an activity by a particular server, and of transition information indicates that the next activity in sequence can be performed by this server and is part of this packet, then this server performs this next activity without transferring the packet back to the queue (remarks, page 12-13).

In response to argument [a], Examiner disagrees.

Independent claim 1 recites:

A method for processing a workflow, wherein the workflow

(1) includes a plurality of activities and workflow transition information,

(2) is constituted by at least one workflow packet each requiring at least one of the plurality of activities, and

(3) is processed by a plurality of activity servers that are operable to process other workflows, each of said plurality of activity servers capable of performing at least one of said plurality of activities.

The method comprises the steps of:

a) retrieving, from a workflow queue operative to handle said workflow and the other workflows, a workflow packet requiring at least a first one of said plurality of activities to be executed, said workflow packet being retrieved by one of said plurality of activity servers capable of performing the first activity;

b) performing the first activity, by said one of said plurality of activity servers;

c) determining a next activity of said workflow that is to be performed immediately following the first activity, based on said workflow transition information;

d) if said one of said plurality of activity servers performs the next activity and if the next activity is required by the retrieved workflow packet, performing the next activity, by said one of said plurality of activity servers;

e) if said one of said plurality of activity servers does not perform the next activity or if the next activity is not required by the retrieved workflow packet, forwarding control of said workflow back to said workflow queue; and

f) repeating steps (a) - (e) as necessary until all of said plurality of activities in said workflow are performed.

The claim above simply fails to disclose the subject matter "grouping the activities of a subject workflow into one or more workflow packets..."

There is no suggestion whatsoever of the fact wherein the grouping of the activities of a subject workflow is performed.

Please note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant is advised to amend the claims to more clearly recite the intended features.

b. Applicants have failed to find in the cited prior art any teaching or suggestion of the advantageous transfer control between servers and the queue (remarks, page 14).

In response to argument [b], Examiner disagrees.

Du et al., clearly teaches the process and the transfer control, as in independent claims, between the resource manager and the queue. For example, If a resource manager is able to handle the request or process, It executes the request and returns the results, if a resource manager is able to handle the subsequent request, the resource manager executes the subsequent request, and If not then the resource manager returns the control back to the queue (See col. 9 L22 to col. 10 L40).

Furthermore, It is evident from the detailed mappings found in the rejection(s) that Du et al. in view of Sumimoto disclosed the transfer control between the servers and the queue. Further, it is clear from the numerous teachings (previously and currently cited) that the provision for the load balancing of plurality of work items as claimed, was widely implemented in the networking art. Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive.

As such, the REJECTION IS MAINTAINED.

Detailed Action

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 41-80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 41 recites in a), "retrieving from a workflow queue a workflow packet requiring one of said plurality of activities to be executed, said workflow packet being retrieved by one of said plurality of activity servers performing said one of said plurality of activities", it is unclear whether the workflow packet is part of the activities or the workflow packets are separate data to be executed.

As per claims 16-27, recites, "a workflow queue for storing a plurality of workflow packets including at least one of said plurality of activities", it is unclear whether the workflow queue includes at least one of said plurality of activities or whether the workflow packets includes at least one of said plurality of activities.

Claim 41 recites:

A method for processing a workflow...(2) is constituted by at least one workflow packet each requiring at least one of the plurality of activities...d) and if the next activity is required by the retrieved workflow packet...

The subject matter "...workflow packet each requiring at least one the pluralities of activites and the next activity is required by the retrieved workflow packet in the claim above is

unclear. It is unclear whether the workflow packet comprises one or more activities and/or workflow packet requires one of the pluralities of activites.

If the intended teaching is directed towards the workflow packet including one or more and/or two or more activites, applicant is advised to clearly recite this feature in the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 41-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,308,163 issued to Du et al.(Du) in view of US Patent 5,522,070 issued to Sumimoto.

As per claim 41, Du teaches a method for processing a workflow, wherein said workflow

(1) includes a plurality of activities and workflow transition information (col.1, lines 21-45),

(2) is constituted by at least one workflow packet each requiring at least one of the plurality of activites (col. 1 L21-45, col.9 L22 to col. 10 L10),

the method comprising the steps of:

a) retrieving from a workflow queue operative to handle said workflow and the other workflows, a workflow packet requiring one of said plurality of activities to be executed, said

workflow packet being retrieved by one of said activity server performing the first activity (col.1, lines 21-45, col.5, lines 28-43);

b) executing or performing the first activity, said activity being executed by said one of said activity server(col.1, lines 21-45, col.5, lines 28-43);

c) determining a next activity of said workflow that is to be performed immediately following the first activity, based on said workflow transition information (col.1, lines 21-45, col.11, lines 26-52);

d) If said one of said plurality of activity servers performs the next activity and if the next activity is required by the retrieved workflow packet, executing said next activity, by said one of said plurality of activity servers (col.1, lines 21-45, col.11, lines 26-52);

e) forwarding to said workflow queue said next activity if said one of said plurality of activity servers does not perform said activity or if the next activity is not required by the retrieved workflow packet (col.1, lines 21-45, Fig.5, 6);

f) repeating steps a – e, as necessary, until all of said plurality of activities in said workflow are executed (col.1, lines 21-45).

Du however does not explicitly teach the use of workflow being processed by a plurality of activity servers, each of said plurality of activity servers performing at least one of said plurality of activities.

Sumimoto teaches the use of workflow being processed by a plurality of activity servers, each of said plurality of activity servers performing at least one of said plurality of activities (Fig.1, 13-20,col.6, lines 1-42).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Du to use multiple activity servers to proves a plurality of activities as taught by Sumimoto in order to distribute processes to computers in the network to obtain the result in a short period of time (Sumimoto, col.1, lines 40-42).

One ordinary skill in the art would have been motivated to combine the teachings of Du and Sumimoto in order to provide a method to distribute processes to computers in the network to obtain the result in a short period of time (Sumimoto, col.1, lines 40-42).

As per claim 42, wherein said workflow packet includes a process state (Du, col.1, lines 21-45, Sumimoto, col.1, lines 40-42). Motivation to combine set forth in claim 1.

As per claim 44, further comprising a database for storing said transition information, said method further comprising the step of: retrieving said transition information from said database, said transition information being retrieved by all of said plurality of activity servers (Du, col.1, lines 21-45, Fig.1-11, col.10, lines 11-29).

As per claim 43, wherein the step of forwarding to said workflow queue includes the steps of persisting said workflow packet requiring said next activity and said next process state; and forwarding said workflow packet to said workflow queue for one of the plurality of activity servers providing said next activity (Du, col.1, lines 21-45, col.8, lines 51-65).

As per claim 45, wherein at least one of said plurality of activity servers performs more than one of said plurality of activities (Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claim 46, wherein at least one of said plurality of activities is an automatic activity (Du, col.1, lines 21-45).

As per claim 47, wherein at least one of said plurality of activities is a manual activity for receiving an input from a user (Du, col.1, lines 21-45).

As per claim 48, wherein said manual activity manages a user interface with said user (Du, col.1, lines 21-45).

As per claim 49, wherein more than one of said plurality of activities is a manual activity and wherein said more than one of said plurality of activities are aggregated in one of said plurality of activity servers (Du, col.1, lines 21-45, Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claim 50, wherein said one of said plurality of activity servers interfaces with a desktop server for providing a user interface to a user (Du, col.1, lines 21-45, Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claim 51, wherein at least one of said plurality of activities is performed by more than one of said plurality of activity servers (Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claim 52, further comprising the step of: receiving an event notification requesting that said workflow be processed; and initiating said workflow (Du, col.5, lines 28-41).

As per claim 53, the method of claim 1, wherein said transition information includes a routing transition (Du, col.1, lines 21-45, col.4, line 64-col.5, line 62).

As per claim 54, the method of claim 13, further comprising the step of: performing more than one of said plurality of activities and more than one routing transition in a single transaction in one of said plurality of activity servers (Du, col.1, lines 21-45, Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claim 55, wherein said transition information includes a route number, a node number, a routing transition and a next node number (Du, col.1, lines 21-45,Fig.8-11, Sumimoto, Figs.1-20). Motivation to combine set forth in claim 1.

As per claims 56-80, they do not teach or further define over the limitations in claims 41-55. Therefore claims 56-80 are rejected for the same reasons as set forth in claims 41-55.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Leymann et al., US 6,073,111: Reduced data load in a Workflow management system.
- Du et al., US 6,041,306: Performing flexible workflow process execution in a distributed workflow management system.
- Agrawal et al., US 6,278,977 B1: deriving process models for workflow management systems.
- Flores et al., US 6,073,109: Managing business processes using linked workflows.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action (i.e. 35 U.S.C. 112, second paragraph rejections). Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kamal Divecha
Art Unit 2151
November 6, 2006.

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